

# **Exhibit 45**



# Production Machining

## Traversing A Robotic Cell

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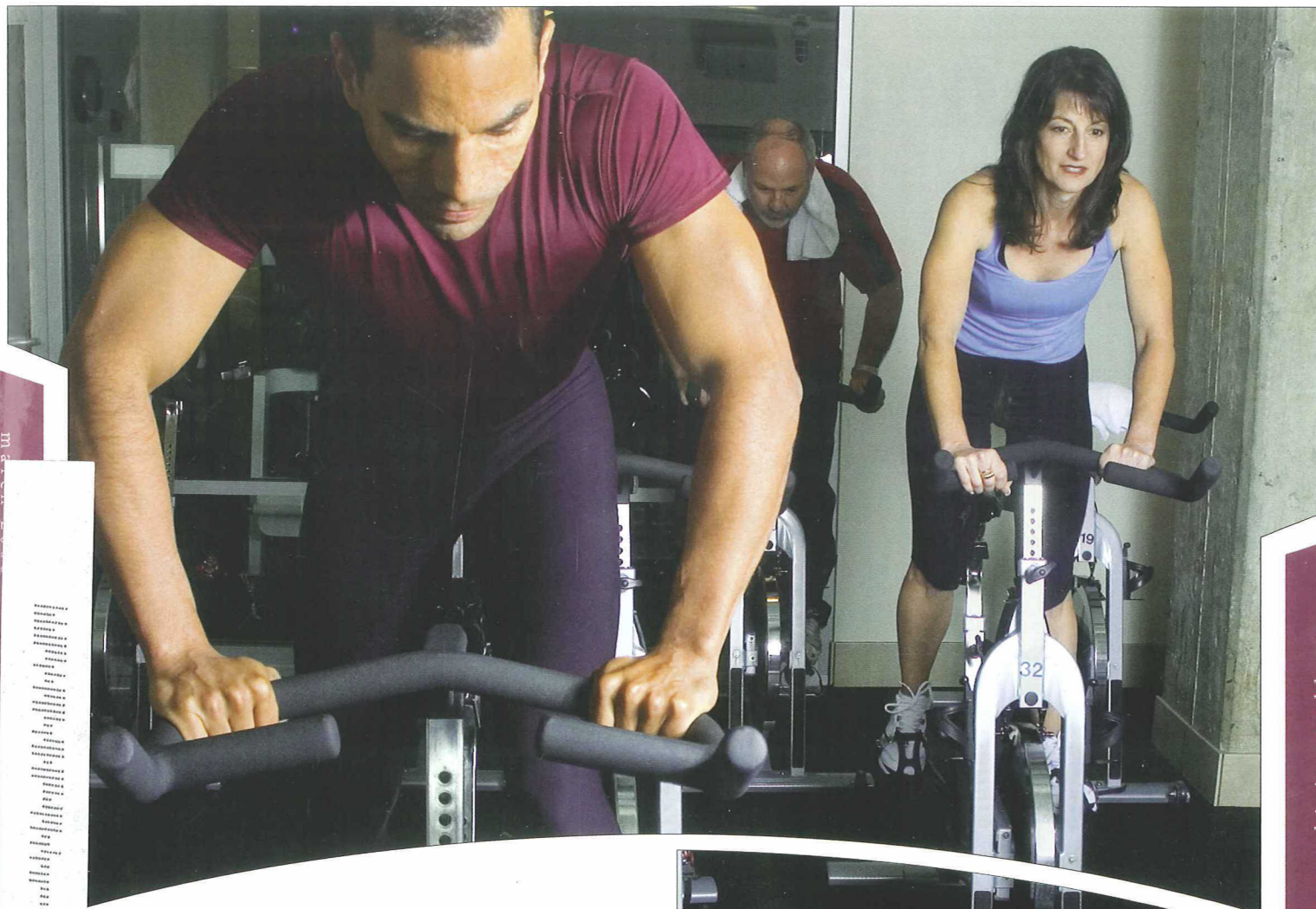
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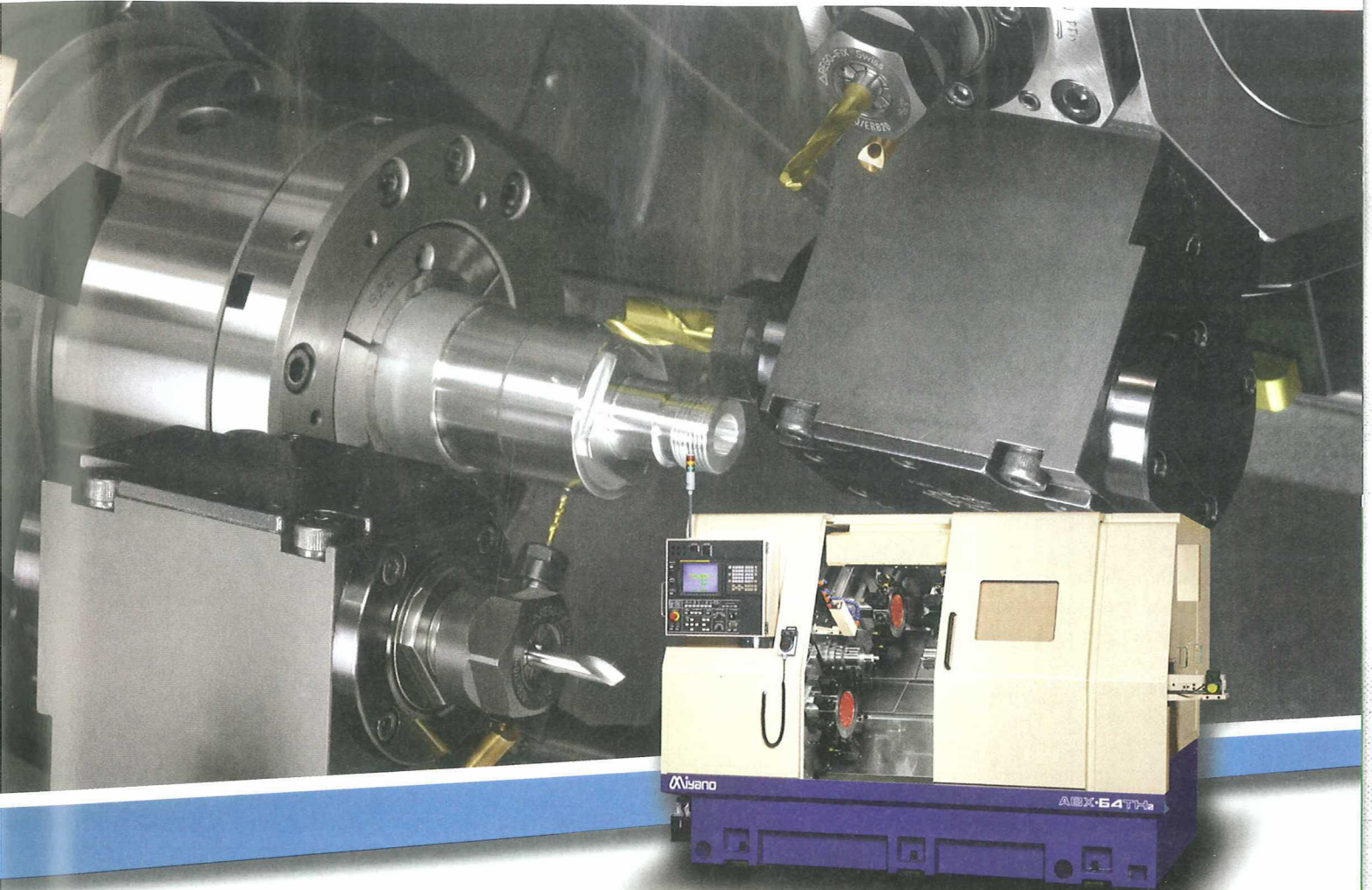
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THE FOLLOWING ARE COMPANIES WHO  
HAVE GIVEN INFORMATION ON  
3-AXIS LATHES

## product focus

Each month, *Today's Machining World* works to help you understand how the precision parts marketplace works, what's available in the industry, and how you can use available resources, as well as knowledge, to run a more efficient and effective shop. In every issue, we'll feature a product category and focus on equipment key to remaining competitive in our marketplace.

A machine axis is commonly defined as the travel direction of the workpiece (usually Z-axis) and either the longitude/latitude direction of the cutting tool (usually X and Y axis). These are considered the "cutting axis" which vary from builder to builder. Some builders use an assortment of different alphabetized axes depending on the part process of their equipment. Some include a "non-cutting" axis such as an "A-axis" that opens or closes a chuck or workholding clamp. A 3-axis machine (either Mill/Drill) consists of a solid workpiece machined by table movement (table back/forth X axis, table in/out Y axis, and table up/down Z axis).

### Miyano Machinery

The BND-51SY2 from Miyano Machinery is a twin spindle compact turning center that features a single 3-axis turret (X, Y and Z) as well as a programmable subspindle and two programmable C-axis spindles. It has a maximum bar capacity of 51mm (2.0). A Y-axis for machining is standard with the BND-51SY2. The CNC program moves the turret along the Y-axis slide to perform more complex milling and parallel hole drilling/tapping operations when the optional live tools are used. This assists the BND-51SY2 in performing secondary machining operations. The BND-51SY2's tooling system also contributes to its versatility and ability to complete parts in a single setup. The main turret holds tool holders in both directions, and all of the twelve tool stations are capable of using live tools. Double-tooling allows up to four tools to be mounted on each station, expanding the maximum number of available tools.

For more information please contact  
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